

not the inner bark tissues of the main stem had been injured. Killing of these tissues was found both in ponderosa and Jeffrey pines, with later mortality after the stems had been invaded by bark-feeding insects.

Neither in 1937 nor in 1949 was enough difference in mortality from the abnormal cold noted between established trees of the two species to account for the tendency of Jeffrey pine to be confined to the higher elevations or colder situations. If an ecologically significant difference exists between the two with respect to cold tolerance it must be operative in the seedling stage, as Haller suggests, or through some other influence than differential mortality from cold.

## DOCUMENTED CHROMOSOME NUMBERS OF PLANTS

(See MADROÑO 9:257-258. 1948)

SPECIES	NUMBER	COUNTED BY	COLLECTION	LOCALITY
RANUNCULACEAE				
<i>Delphinium carolinianum</i> Walter	n = 8	B. L. Turner, TEX <sup>1</sup>	Thompson & Turner 96 TEX	Hardin County, Texas
<i>virescens</i> var. <i>macroceratilis</i> (Rydb.) Ewan	n = 8	B. L. Turner, TEX	Turner 4395 TEX	Bexar County, Texas
SAXIFRAGACEAE				
<i>Saxifraga ferruginea</i> Graham	n = 19	K. I. Beamish, UBC	Beamish 7828 UBC  Beamish 9000 UBC	Mt. Seymour near Vancouver, B.C., Canada Caulfeilds, near Vancouver, B.C., Canada
<i>integrifolia</i> Hook.	n = 19	K. I. Beamish, UBC	Beamish 7057 UBC  Beamish, Vrugtman & Sparling 8017 UBC	Thetis Lake, Vancouver Island, B.C., Canada Elk Falls, Vancouver Island, B.C., Canada
<i>montanensis</i> Small	n = 19	K. I. Beamish, UBC	Vrugtman, Beamish & Kallio 9027 UBC	Princeton-Merritt Road, B.C., Canada
<i>occidentalis</i> Watson sensu lat.	n = 19	K. I. Beamish, UBC	Beamish, Vrugtman & Sperrings 8224, UBC	Botanie Valley, near Lytton, B.C., Canada

<sup>1</sup> Symbols for institutions are those listed by Lanjouw and Stafleu. Index Herbariorum, Part I. Second edition, 1954, Utrecht.

SPECIES	NUMBER	COUNTED BY	COLLECTION	LOCALITY
<i>Saxifraga</i> <i>tolmiei</i> T. & G.	n = 15	K. I. Beamish, UBC	<i>Beamish 7831</i> UBC	Mt. Seymour near Vancouver, B.C., Canada
UMBELLIFERAE <i>Pseudotaenidia</i> <i>montana</i> Mackenz.	2n = 22	R. L. Guthrie WVA	<i>Guthrie</i> s.n. UC	Greenbrier County, W. Va.
GARRYACEAE <i>Garrya lindheimeri</i> Torr.	n = 11	B. L. Turner, TEX	<i>Turner 3967</i> TEX	Austin, Travis County, Texas
VERBENACEAE <i>Verbena</i> <i>hastata</i> L.	n = 7	J. D. Poindexter, KANU	<i>Poindexter 33</i> KANU	Douglas County, Kansas
<i>bracteata</i> Lag. & Rodr.	n = 7	R. C. Jackson, KANU	<i>Poindexter 18</i> KANU	Trego County, Kansas
<i>stricta</i> Vent.	n = 7	J. D. Poindexter, KANU	<i>Poindexter 37</i> KANU	Douglas County, Kansas
<i>urticifolia</i> L.	n = 7	J. D. Poindexter, KANU	<i>Poindexter 9</i> KANU	Douglas County, Kansas
SCROPHULARIACEAE <i>Penstemon clutei</i> A. Nels.	n = 8	R. C. Jackson, KANU	<i>R. C. &amp; S. W.</i> <i>Jackson 2683-1</i> KANU	Coconino County, Arizona
COMPOSITAE <i>Blennosperma nanum</i> (Hook.) Blake var. <i>robustum</i> Howell	n = 7	R. Ornduff, UC	<i>Ornduff 4963</i> UC	Pt. Reyes, Marin County, California
<i>Encelia frutescens</i> Gray	n = 17	R. C. Jackson, KANU	<i>Jackson 2684</i> KANU	Coconino County, Arizona
<i>Haplopappus</i> <i>hawardii</i> Waterfall	n = 4	R. C. Jackson, KANU	<i>Jackson 2717</i> KANU	Lea County, New Mexico
<i>phyllocephallus</i> DC. subsp. <i>phyllo-</i> <i>cephalus</i>	n = 6	R. C. Jackson, KANU	<i>Jackson 2610</i> KANU	Cameron County, Texas
<i>phyllocephalus</i> subsp. <i>annuus</i> (Rydb.) Hall	n = 6	R. C. Jackson, KANU	<i>Ungar 729</i> KANU	Stafford County, Kansas
<i>spinulosus</i> (Pursh) DC. subsp. <i>spinulosus</i>	n = 4+1	R. C. Jackson, KANU	<i>Jackson 2455-1</i> KANU	Socorro County, New Mexico
<i>spinulosus</i> (Pursh) DC. subsp. <i>spinulosus</i>	n = 4+2	R. C. Jackson, KANU	<i>Jackson 2455-14</i> KANU	Socorro County, New Mexico

SPECIES	NUMBER	COUNTED BY	COLLECTION	LOCALITY
<i>Machaeranthera blephariphylla</i> (Gray) Shinnars	2n = 8	R. C. Jackson, KANU	<i>Jackson 2901</i> KANU	Durango, Mexico
<i>tagetina</i> Greene	n = 4	R. C. Jackson, KANU	<i>Jackson 2600</i> KANU	Hidalgo County, New Mexico
<i>Porophyllum scoparium</i> Gray	n = 12	R. C. Jackson, KANU	<i>R. C. &amp; S. W. Jackson 2701</i> KANU	Otero County, New Mexico
<i>Psilostrophe cooperi</i> (Gray) Greene	n = 16	R. C. Jackson, KANU	<i>R. C. &amp; S. W. Jackson 2693</i> KANU	Yavapai County, Arizona
<i>Sclerocarpus uniserialis</i> (Hook.) Benth. & Hook. f.	n = 12	B. L. Turner, TEX	<i>Turner et al. 3313</i> TEX	Jackson County, Texas
<i>Viguiera adenophylla</i> Blake	n = 17	C. B. Heiser, IND	<i>Stoutamire 2813</i> IND	North of San Luis Potosí-Nuevo Leon state line, Mexico
<i>deltoidea</i> var. <i>Parishii</i> (Greene) Vasey & Rose	n = 18	C. B. Heiser, IND	<i>Neher in 1958</i> IND	Near Palm Springs, Riverside County, California
<i>dentata</i> var. <i>brevipes</i> (DC.) Blake	n = 17	B. L. Turner, TEX	<i>Turner 4463B</i> TEX	Austin, Travis County, Texas
<i>porteri</i> (A. Gray) Blake	n = 17	C. B. Heiser, IND	From seed ( <i>Duncan</i> ) <i>Heiser 4561</i> IND	DeKalb County, Georgia
<i>stenoloba</i> Blake	n = 17	C. B. Heiser, IND	From seed <i>Tucker 3131</i>	Eddy County, New Mexico

## REVIEW

*Carex—Its Distribution and Importance in Utah.* By MONT E. LEWIS. Brigham Young University Science Bulletin, Biological Series 1(2):1-43. 1958. \$1.00.

"The purpose of this report is to bring available information concerning the *Carex* species in Utah up to date." With these modest words Mr. Lewis of the United States Forest Service intermountain regional office in Ogden, Utah, introduces his excellent and original study of the identification, distribution, ecology, and grazing values of Utah carices.

Since the only Utah flora, namely Tidestrom's, is now over a third of a century old, a modern study such as this is most welcome. It is doubly welcome in that it comes from a representative of the federal organization which spends more man-hours interpreting the native plant cover of Utah than any other group. It is gratifying that a man primarily concerned with administration should take the time to produce a work such as this.